

Attorney Docket No.: UMD-0032
Inventors: Madura, Kiran
Serial No.: 09/918,036
Filing Date: July 30, 2001
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This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (canceled).

Claim 6 (currently amended): A DNA construct encoding a fusion protein for assessing ~~the rate of proliferation of a cell~~ whether a cell with a functional 26S proteasome is quiescent or actively growing comprising:

a) a first nucleic acid sequence encoding a promoter element; and

b) a second nucleic acid sequence encoding a UbL domain having an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, and SEQ ID NO:5, ~~SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, and SEQ ID NO:12,~~ operably linked to a third nucleic acid sequence encoding a reporter molecule, expression of said UbL domain and said reporter molecule being regulated by said promoter.

Claim 7 (original): A DNA construct as claimed in claim 6, said construct being inserted into a vector.

Claim 8 (canceled).

Claim 9. (previously presented): A DNA construct according to claim 6, wherein said reporter molecule is selected from the group of molecules consisting of β -galactosidase, URA3,

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luciferase, mammalian chloramphenicol transacetylase (CAT), and green fluorescent protein (GFP).

Claim 10 (currently amended): A method for assessing ~~the rate of proliferation cell~~ whether a cell with a functional 26S proteasome is actively growing, comprising:

a) introducing into a cell with a functional 26S proteasome a DNA construct encoding a fusion protein, said fusion protein comprising a UbL domain operably linked to a reporter molecule, wherein the UbL domain has an amino acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, and ~~SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, and SEQ ID NO:12;~~ and

b) assessing the stability of the reporter molecule of the fusion protein, wherein a decrease in the stability of the reporter molecule in the cell, as compared to the reporter molecule of the fusion protein in a normal quiescent cell, is indicative of said cell being an actively growing cell.

Claim 11 (canceled).

Claim 12 (previously presented): A method as claimed in claim 10, wherein said reporter molecule is selected from the group of molecules consisting of β -galactosidase, URA3, luciferase, mammalian chloramphenicol transacetylase (CAT), and green fluorescent protein (GFP).

Claims 13-18 (canceled).